

THAT WHICH IS CLAIMED IS:

1. A solid state image sensor comprising
an array of pixels and a corresponding array of
microlenses disposed in front of said array of
pixels, in which the positions of said microlenses
5 relative to their corresponding pixels vary according
to the distances of the pixels from a central optical
axis of the image sensor, so as to substantially
eliminate vignetting of light collected by the
microlenses, wherein said array of microlenses is
10 divided into blocks, each of said blocks comprising a
plurality of microlenses, and wherein, within a
particular block of microlenses, the positions of
said microlenses relative to their corresponding
pixels are varied by an equal amount.

2. A solid state image sensor as claimed
in claim 1, wherein the microlenses within each of
said blocks are substantially equally spaced apart by
a first distance and wherein adjacent blocks of
5 microlenses are spaced apart by a second distance
which is less than said first distance.

3. A solid state image sensor as claimed in
claim 1, wherein the microlenses are substantially
equally spaced throughout said array of microlenses
and wherein selected microlenses at the edges of said
5 blocks are smaller in at least one direction than the
remainder of the microlenses of said blocks.

4. A solid state image sensor as claimed in any one of claims 1 to 3, wherein said blocks are substantially rectangular.

5. A solid state image sensor as claimed in any one of claims 1 to 3, wherein said blocks have irregular edges configured such that said blocks are tessellated to form a substantially continuous array of microlenses.

6. A solid state image sensor comprising an array of pixels, said array of pixels having a first aspect ratio and each of said pixels including a light-sensitive area having a second aspect ratio, wherein said first aspect ratio is substantially equal to said second aspect ratio.

7. A solid state image sensor as claimed in claim 6, further including a corresponding array of microlenses disposed in front of said array of pixels.

8. A solid state image sensor as claimed in any one of claims 1 to 5 in combination with claim 6 or claim 7.

9. An imaging system including a solid state image sensor as claimed in any one of claims 1 to 8.

10. A camera including a solid state image sensor as claimed in any one of claims 1 to 8.